

## **APPENDIX C**

### **Cost Estimate Tables**

### **Fine Gold Reservoir**



CODE:D-8312		ESTIMATE WORKSHEET		SHEET__1__ OF __3__	
<b>FEATURE:</b>  <b>Fine Gold Dam Site</b> <b>Elevation 900'</b> <b>Concrete Gravity Dam - RCC</b> <b>Appraisal Stage</b>			14-Feb-03		
			<b>PROJECT:</b> <b>USJRBSI</b>		
			<b>DIVISION:</b>		
			<b>UNIT:</b>		
	DESCRIPTION		AMOUNT		
	<b>Field Costs</b> 2002 price levels				
	Diversion and Care of River		\$4,600,000		
	RCC Dam		\$53,200,000		
	Spillway		\$300,000		
	Outlet Works		\$6,500,000		
	Pumping/Generating Plant		\$27,900,000		
	Subtotal		\$92,500,000		
	Unlisted Items (estimated at 15%)		\$13,900,000		
	Subtotal	rounded	\$106,000,000		
	Contingencies (estimated at 25%)	rounded	\$27,000,000		
	Subtotal	rounded	\$133,000,000		
	Mitigation (estimated at 5%)	rounded	\$7,000,000		
	<b>Total Field Costs</b>	rounded	<b>\$140,000,000</b>		
	Investigation, Design, & Construction Mgmt (estimated at 15%)	rounded	\$21,000,000		
	<b>Total Project First Cost (excluding land)</b>		<b>\$161,000,000</b>		

CODE:D-8312		<b>ESTIMATE WORKSHEET</b>			SHEET <u>2</u> OF <u>3</u>	
<b>FEATURE:</b>		14-Feb-03	<b>PROJECT:</b>			
			<b>USJRBSI</b>			
<b>Fine Gold Dam Site</b>						
<b>Elevation 900'</b>			<b>DIVISION:</b>			
<b>Concrete Gravity Dam - RCC</b>						
<b>Appraisal Stage</b>			<b>UNIT:</b>			
PAY					UNIT	
ITEM		DESCRIPTION	QUANTITY	UNIT	PRICE	AMOUNT
1	<b>Diversion and care of river</b>					
	Upstream Cofferdam (Crest @ El. 590)		14,540	CY	\$21.00	\$305,340
	Steel Pipe		1,682,400	LBS	\$1.50	\$2,523,600
	Concrete Encasement		2,950	CY	\$150.00	\$442,500
	Downstream Cofferdam (Crest @ El. 578)		52,070	CY	\$21.00	\$1,093,470
	Mobilization - 5%					\$218,000
	<b>Diversion and Care Subtotal</b>					\$4,582,910
					<b>rounded</b>	<b>\$4,600,000</b>
2	<b>RCC Dam</b>					
	Excavation, all classes, for dam foundation(50%rock)		30,150	CY	\$8.00	\$241,200
	RCC in dam		911,280	CY	\$24.00	\$21,870,720
	Concrete facing elements		31,320	CY	\$120.00	\$3,758,400
	Concrete cap on top of dam		1,720	CY	\$250.00	\$430,000
	Leveling concrete in dam foundation		7,540	CY	\$160.00	\$1,206,400
	Furnishing and Handling Cement		194,314	TONS	\$90.00	\$17,488,260
	Furnishing and Handling Reinforcement		5,960,000	LBS	\$0.60	\$3,576,000
	Grout Hole Drilling		19,650	LF	\$25.00	\$491,250
	Foundation Grouting		62,000	Sacks	\$15.00	\$930,000
	Set up for Drain Holes in Gallery		131	Holes	\$200.00	\$26,200
	Drilling Drain Holes		15,610	LF	\$40.00	\$624,400
	Mobilization - 5%					\$2,532,000
	<b>Dam Subtotal</b>					\$53,174,830
					<b>rounded</b>	<b>\$53,200,000</b>

CODE:D-8312		<b>ESTIMATE WORKSHEET</b>			SHEET <u>3</u> OF <u>3</u>	
<b>FEATURE:</b>		14-Feb-03	<b>PROJECT:</b>			
			<b>USJRBSI</b>			
<b>Fine Gold Dam Site</b>						
<b>Elevation 900'</b>			<b>DIVISION:</b>			
<b>Concrete Gravity Dam - RCC</b>						
<b>Appraisal Stage</b>			<b>UNIT:</b>			
PAY					UNIT	
ITEM		DESCRIPTION	QUANTITY	UNIT	PRICE	AMOUNT
3	<b>Spillway</b>					
	Concrete in spillway crest		770	CY	\$250.00	\$192,500
	Concrete in spillway training walls		335	CY	\$350.00	\$117,250
	Mobilization - 5%					\$15,000
	<b>Spillway Subtotal</b>					\$324,750
					<b>rounded</b>	<b>\$300,000</b>
4	<b>Outlet Works</b>					
	Concrete in Outlet Works Intake Structure		N/A	CY		
	Concrete in Outlet Works Pipe Encasement		1,100	CY	\$150.00	\$165,000
	Outlet Works Trashracks		72,000	LBS	\$2.50	\$180,000
	Outlet Works Bulkhead for Intake Structure		45,500	LBS	\$3.50	\$159,250
	Seats and Guides for Bulkhead		36,000	LBS	\$3.50	\$126,000
	Steel Pipe		2,177,040	LBS	\$1.50	\$3,265,560
	Valves, all Sizes and Types		523,200	LBS	\$4.00	\$2,092,800
	Hydraulic Control System		20,000	LBS	\$10.00	\$200,000
	Mobilization - 5%					\$309,000
	<b>Outlet Works Subtotal</b>					\$6,497,610
					<b>rounded</b>	<b>\$6,500,000</b>
5	<b>Pumping/Generating Plant</b>					
	Excavation for Pump/Generator Structure		135,000	CY	\$15.00	\$2,025,000
	Concrete in Pump/Generator Structure		35,800	CY	\$350.00	\$12,530,000
	Pump Units		372,100	LBS	\$7.00	\$2,604,700
	Turbines		651,900	LBS	\$6.50	\$4,237,350
	Generator		500,000	LBS	\$8.00	\$4,000,000
	Governors, Motors, etc.		1-Unit	LS		\$1,200,000
	Mobilization - 5%					\$1,330,000
	<b>P/G Plant Subtotal</b>					\$27,927,050
					<b>rounded</b>	<b>\$27,900,000</b>

CODE: D-8312		ESTIMATE WORKSHEET		SHEET __1__ OF __4__	
<b>FEATURE:</b>  <b>Fine Gold Dam Site</b> <b>Elevation 1100'</b> <b>Concrete Gravity Dam - RCC</b> <b>Appraisal Stage</b>		<b>PROJECT:</b> <b>USJRBSI</b>		<b>14-Feb-03</b>	
				<b>DIVISION:</b>	
				<b>UNIT:</b>	
	DESCRIPTION			AMOUNT	
	<b>Field Costs</b> 2002 price levels				
	Diversion and Care of River			\$8,000,000	
	RCC Dam			\$170,700,000	
	Spillway			\$600,000	
	Outlet Works			\$11,800,000	
	Pumping/Generating Plant			\$30,700,000	
	Saddle Dam			\$24,500,000	
	Subtotal			\$246,300,000	
	Unlisted Items (estimated at 15%)			\$36,900,000	
	Subtotal		rounded	\$283,000,000	
	Contingencies (estimated at 25%)		rounded	\$71,000,000	
	Subtotal		rounded	\$354,000,000	
	Mitigation (estimated at 5%)		rounded	\$18,000,000	
	<b>Total Field Costs</b>		rounded	<b>\$372,000,000</b>	
	Investigation, Design, & Construction Mgmt (estimated at 15%)		rounded	\$56,000,000	
	<b>Total Project First Cost (excluding land)</b>			<b>\$428,000,000</b>	

CODE:D-8312		<b>ESTIMATE WORKSHEET</b>		SHEET <u>2</u> OF <u>4</u>	
<b>FEATURE:</b>		14-Feb-03	<b>PROJECT:</b>		
			<b>USJRBSI</b>		
<b>Fine Gold Dam Site</b>					
<b>Elevation 1100'</b>			<b>DIVISION:</b>		
<b>Concrete Gravity Dam - RCC</b>					
<b>Appraisal Stage</b>			<b>UNIT:</b>		
PAY				UNIT	
ITEM	DESCRIPTION	QUANTITY	UNIT	PRICE	AMOUNT
1	<b>Diversion and care of river</b>				
	Upstream Cofferdam (Crest @El. 590)	14,540	CY	\$21.00	\$305,340
	Steel Pipe	3,557,000	LBS	\$1.50	\$5,335,500
	Concrete Encasement	4,500	CY	\$150.00	\$675,000
	Downstream Cofferdam (Crest @El. 578)	64,240	CY	\$21.00	\$1,349,040
	Mobilization 5%				\$383,000
	<b>Diversion and Care Subtotal</b>				\$8,047,880
				<b>rounded</b>	<b>\$8,000,000</b>
2	<b>RCC Dam</b>				
	Excavation, all classes, for dam foundation(50%rock)	102,420	CY	\$6.50	\$665,730
	RCC in dam	3,604,420	CY	\$20.00	\$72,088,400
	Concrete facing elements	92,850	CY	\$100.00	\$9,285,000
	Concrete cap on top of dam	5,010	CY	\$235.00	\$1,177,350
	Leveling concrete in dam foundation	25,610	CY	\$150.00	\$3,841,500
	Furnishing and Handling Cement	724,922	TONS	\$90.00	\$65,242,980
	Furnishing and Handling Reinforcement	6,712,000	LBS	\$0.60	\$4,027,200
	Grout Hole Drilling	88,250	LF	\$25.00	\$2,206,250
	Foundation Grouting	88,250	Sacks	\$15.00	\$1,323,750
	Set up for Drain Holes in Gallery	353	Holes	\$150.00	\$52,950
	Drilling Drain Holes	75,330	LF	\$35.00	\$2,636,550
	Mobilization 5%				\$8,127,000
	<b>Dam Subtotal</b>				\$170,674,660
				<b>rounded</b>	<b>\$170,700,000</b>

CODE:D-8312		<b>ESTIMATE WORKSHEET</b>			SHEET __3__ OF __4__	
<b>FEATURE:</b>		14-Feb-03	<b>PROJECT:</b>			
			<b>USJRBSI</b>			
<b>Fine Gold Dam Site</b>						
<b>Elevation 1100'</b>			<b>DIVISION:</b>			
<b>Concrete Gravity Dam - RCC</b>						
<b>Appraisal Stage</b>			<b>UNIT:</b>			
PAY					UNIT	
ITEM		DESCRIPTION	QUANTITY	UNIT	PRICE	AMOUNT
3	<b>Spillway</b>					
	Concrete in spillway crest		770	CY	\$250.00	\$192,500
	Concrete in spillway training walls		1,040	CY	\$350.00	\$364,000
	Mobilization 5%					\$28,000
	<b>Spillway Subtotal</b>					\$584,500
					<b>rounded</b>	<b>\$600,000</b>
4	<b>Outlet Works</b>					
	Concrete in Outlet Works Intake Structure		N/A	CY		
	Concrete in Outlet Works Pipe Encasement		2,120	CY	\$150.00	\$318,000
	Outlet Works Trashracks		81,000	LBS	\$2.50	\$202,500
	Outlet Works Bulkhead for Intake Structure		82,500	LBS	\$3.50	\$288,750
	Seats and Guides for Bulkhead		61,700	LBS	\$3.50	\$215,950
	Steel Pipe		4,448,300	LBS	\$1.50	\$6,672,450
	Valves, all Sizes and Types		831,940	LBS	\$4.00	\$3,327,760
	Hydraulic Control System		25,000	LBS	\$10.00	\$250,000
	Mobilization 5%					\$564,000
	<b>Outlet Works Subtotal</b>					\$11,839,410
					<b>rounded</b>	<b>\$11,800,000</b>
5	<b>Pumping/Generating Plant</b>					
	Excavation for Pump/Generator Structure		180,000	CY	\$15.00	\$2,700,000
	Concrete in Pump/Generator Structure		35,800	CY	\$350.00	\$12,530,000
	Pump Units		359,400	LBS	\$7.00	\$2,515,800
	Turbines		629,700	LBS	\$6.50	\$4,093,050
	Generator		780,000	LBS	\$8.00	\$6,240,000
	Governors, Motors, etc.		1-Unit	LS		\$1,200,000
	Mobilization - 5%					\$1,464,000
	<b>Pumping/Generating Subtotal</b>					\$30,742,850
					<b>rounded</b>	<b>\$30,700,000</b>



CODE:D-8312		<b>ESTIMATE WORKSHEET</b>			SHEET <u>4</u> OF <u>4</u>	
<b>FEATURE:</b>		14-Feb-03	<b>PROJECT:</b>			
			<b>USJRBSI</b>			
<b>Fine Gold Dam Site</b>						
<b>Elevation 1100'</b>			<b>DIVISION:</b>			
<b>Concrete Gravity Dam - RCC</b>						
<b>Appraisal Stage</b>			<b>UNIT:</b>			
PAY					UNIT	
ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	PRICE	AMOUNT
6	<b>Saddle Dam</b>					
10	Excavation - common (removal of alluvium, rock	8313	82,200	CY	\$7.00	\$575,400
	slope cleaning by dozer to sound rock, minimal ripping.					
20	Zone 1 -Core- Exc, haul, & place (CL, SM, GM in 6" lifts	8313	380,000	CY	\$9.00	\$3,420,000
	to 98% Proctor, 2 mile haul).					
30	Zone 2 - Filter -Exc, haul, & place processed SM, GM in 18"	8313	260,000	CY	\$14.00	\$3,640,000
	lifts to 98% Proctor, 0.5 mile haul.)					
40	Zone 3 -Shell- Exc, haul, & place (processed GP in 18"	8313	1,500,000	CY	\$10.00	\$15,000,000
	lifts to 95% Proctor, 0.5 mile haul.)					
50	Riprap - Exc, haul, & place (processed GP in 18"	8313	34,300	CY	\$16.00	\$548,800
	lifts to 95% Proctor, 0.5 mile haul.)					
60	Slope Protection - Exc, haul, & place (rockfill, 18" max in	8313	10,300	CY	\$15.00	\$154,500
	3' lifts, blasting operation 0.5 mile away.)					
	Mobilization - 5%					\$1,167,000
	<b>Saddle Dam Subtotal</b>					<b>\$24,505,700</b>
			<b>rounded</b>			<b>\$24,500,000</b>

CODE: D-8312		ESTIMATE WORKSHEET		SHEET __1__ OF __3__	
<b>FEATURE:</b>  Fine Gold Dam - 380' high Concrete Faced Rockfill Dam Elevation 900' Appraisal Stage		14-Feb-03  <b>PROJECT:</b> USJRBSI		<b>DIVISION:</b>	
				<b>UNIT:</b>	
	DESCRIPTION			AMOUNT	
	<b>Field Costs</b> 2002 price levels				
	Diversion and Care of River			\$11,100,000	
	Spillway			\$4,900,000	
	Outlet Works			\$5,700,000	
	Dam (CFRD)			\$47,200,000	
	Pumping/Generating Plant			\$38,000,000	
	Subtotal			\$106,900,000	
	Unlisted Items (estimated at 15%)			\$16,000,000	
	Subtotal		rounded	\$123,000,000	
	Contingencies (estimated at 25%)		rounded	\$31,000,000	
	Subtotal		rounded	\$154,000,000	
	Mitigation (estimated at 5%)		rounded	\$8,000,000	
	<b>Total Field Costs</b>		rounded	<b>\$162,000,000</b>	
	Investigation, Design, & Construction Mgmt (estimated at 15%)		rounded	\$24,000,000	
	<b>Total Project First Cost (excluding land)</b>			<b>\$186,000,000</b>	

CODE:D-8170		ESTIMATE WORKSHEET		SHEET __2__ OF __3__	
<b>FEATURE:</b>  Fine Gold Dam - 380' high Concrete Faced Rockfill Dam Elevation 900' Appraisal Stage		14-Feb-03		<b>PROJECT:</b> USJRBSI	
				<b>DIVISION:</b>	
				<b>UNIT:</b>	
PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	<b>Diversion and care of river</b>				
	Upstream Cofferdam (Crest @ El. 655)	112,060	CY	\$21.00	\$2,353,260
	Excavation for Diversion Tunnel	21,900	CY	\$180.00	\$3,942,000
	Concrete Liner for Tunnel	7,040	CY	\$295.00	\$2,076,800
	Furnishing and Handling Cement	1,990	TONS	\$120.00	\$238,800
	Furnishing and Handling Reinforcement	1,056,000	LBS	\$0.65	\$686,400
	Temp Tunnel Supports (Rock Bolts)	2,365	BOLTS	\$300.00	\$709,500
	Drilling, Diversion Tunnel	26,015	LF	\$20.00	\$520,300
	Mobilization - 5%				\$526,000
	<b>Diversion and care subtotal</b>				<b>\$11,053,060</b>
				<b>rounded</b>	<b>\$11,100,000</b>
2	<b>Spillway</b> (left abutmt, in rock)				
	Excavation for Spillway	321,940	CY	\$11.00	\$3,541,340
	Concrete in spillway crest	2,090	CY	\$200.00	\$418,000
	Concrete in spillway training walls and Apron	1,090	CY	\$230.00	\$250,700
	Furnishing and Handling Cement	900	TONS	\$120.00	\$108,000
	Furnishing and Handling Reinforcement	477,000	LBS	\$0.65	\$310,050
	Mobilization - 5%				\$231,000
	<b>Spillway subtotal</b>				<b>\$4,859,090</b>
				<b>rounded</b>	<b>\$4,900,000</b>
3	<b>Outlet Works</b>				
	Concrete in Outlet Works Intake Structure	445	CY	\$480.00	\$213,600
	Excavation of Outlet Shaft and Gate Structure	4,490	CY	\$360.00	\$1,616,400
	Concrete in Outlet Works Shaft and Gate Structure	1,360	CY	\$485.00	\$659,600
	Furnishing and Handling Cement	385	TONS	\$120.00	\$46,200
	Furnishing and Handling Reinforcement	204,000	LBS	\$0.70	\$142,800
	Temporary Supports for Shaft				
	No. of Rock Bolts	216	Bolts	\$350.00	\$4,320
	Depth of Drilling	2,160	LF	\$20.00	\$43,200
	Outlet Works Trashracks	90,000	LBS	\$2.50	\$225,000
	Outlet Works Bulkhead & Seats for Intake Structure	82,000	LBS	\$4.00	\$328,000
	Outlet Gate for Gate Structure	544,600	LBS	\$4.00	\$2,178,400
	Mobilization - 5%				\$273,000
	<b>Outlet Works subtotal</b>				<b>\$5,730,520</b>
				<b>rounded</b>	<b>\$5,700,000</b>

CODE: D-8312		ESTIMATE WORKSHEET			SHEET _3_ OF _3_	
<b>FEATURE:</b>  Fine Gold Dam - 380' high Concrete Faced Rockfill Dam Elevation 900' Appraisal Stage		14-Feb-03	<b>PROJECT:</b>  USJRBSI			
			<b>DIVISION:</b>			
			<b>UNIT:</b>			
PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
4	Dam (CFRD)					
10	Excavation - common (removal of alluvium, slope cleaning by dozer to sound rock, minimal ripping.	8313	98,500	CY	\$7.00	\$689,500
20	Zone 1A - Exc, haul, & place (CL, SM, GM in 6' lifts to 98% Proctor, 2 mile haul). Toe slab imperv. cap	8313	21,000	CY	\$10.00	\$210,000
30	Zone 1B - Exc, haul, & place (random in 18" lifts to 95% Proctor, 0.5 mi. haul). Shell for Zone 1A	8313	35,000	CY	\$6.00	\$210,000
40	Zone 2 - Exc, haul, & place processed SM, GM in 3' lifts to 98% Proctor, 0.5 mile haul.) Deck foundation.	8313	60,000	CY	\$18.00	\$1,080,000
50	Zone 3A - Exc, haul, & place (processed GP in 3' lifts to 95% Proctor, 0.5 mile haul.) Transition to shell.	8313	60,000	CY	\$17.50	\$1,050,000
60	Zone 3B - Exc, haul, & place (rockfill, 18" max lift, 3' lifts, blasting operation 0.5 mile away.) Upstream shell.	8313	1,600,000	CY	\$9.50	\$15,200,000
70	Zone 3C - Exc, haul, & place (rockfill, 4' max lift, 3' lifts, blasting operation 0.5 mile away.) Downstream shell.	8313	1,690,000	CY	\$9.25	\$15,632,500
80	Concrete deck (3,000 psi strength, 0.4% reinforcing)	8313	21,900	CY	\$290.00	\$6,351,000
90	Concrete toe slab (3,000 psi strength, 0.3% reinforcing)	8313	2,750	CY	\$270.00	\$742,500
100	Anchor bars for toe slab (4' deep grouted into rock)	8313	12,350	anchors	\$25.00	\$308,750
110	Parapet Wall (3,000 psi, 0.4% reinforcing)	8313	1,960	CY	\$450.00	\$882,000
120	Drilling for grout program (setup, drill, test) see	8313	28,000	LF	\$30.00	\$840,000
130	Grouting (grout injection into competent gravel)	8313	21,000	bags	\$10.00	\$210,000
140	Dewatering (assumes 30 month construction)	8313	1	LS		\$1,500,000
	Mobilization - 5%					\$2,245,000
	Dam (CFRD) Subtotal					\$47,151,250
					rounded	\$47,200,000

CODE:D-8312

**ESTIMATE WORKSHEET**

SHEET \_\_4\_\_ OF \_\_4\_\_

<b>FEATURE:</b>  Fine Gold Dam - 380' high Concrete Faced Rockfill Dam Elevation 900' Appraisal Stage		14-Feb-03		<b>PROJECT:</b> USJRBSI	
				<b>DIVISION:</b>	
				<b>UNIT:</b>	
PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
5	<b>Pumping/Generating Plant</b>				
	Steel Pipe	1,837,140	LBS	\$1.50	\$2,755,710
	Valves, all Sizes and Types	523,200	LBS	\$4.00	\$2,092,800
	Hydraulic Control System	20,000	LBS	\$10.00	\$200,000
	Pump Units	372,100	LBS	\$7.00	\$2,604,700
	Turbines	651,880	LBS	\$6.50	\$4,237,220
	Generator	500,000	LBS	\$8.00	\$4,000,000
	Governors, Motors, etc.	1-Unit	LS		\$1,200,000
	Excavation for Pump/Generator Structure	154,590	CY	\$15.00	\$2,318,850
	Concrete in Pump/Generator Structure	35,800	CY	\$350.00	\$12,530,000
	Furnishing and Handling Cement	10,100	TONS	\$100.00	\$1,010,000
	Furnishing and Handling Reinforcement	5,370,000	LBS	\$0.60	\$3,222,000
	Mobilization - 5%				\$1,809,000
	<b>Pump / Power Plant Subtotal</b>				<b>\$37,980,280</b>
				<b>rounded</b>	<b>\$38,000,000</b>

ESTIMATE WORKSHEET		SHEET <u>1</u> OF <u>4</u>	
<b>FEATURE:</b>  Fine Gold Dam - 580' High Concrete Faced Rockfill Dam Elevation 1100 Appraisal Stage		14-Feb-03	<b>PROJECT:</b> <b>USJRBSI</b>  <b>DIVISION:</b>  <b>UNIT:</b>
	DESCRIPTION		AMOUNT
	Field Costs 2002 price levels		
	Main Dam		\$153,300,000
	Diversion and care of river		\$11,000,000
	Spillway		\$7,200,000
	Outlet Works		\$6,000,000
	Pumping/Powerplant		\$57,900,000
	Saddle Dam		\$24,500,000
	Subtotal		\$259,900,000
	Unlisted Items (estimated at 15%)		\$39,000,000
	Subtotal	rounded	\$299,000,000
	Contingencies (estimated at 25%)	rounded	\$75,000,000
	Subtotal	rounded	\$374,000,000
	Mitigation (estimated at 5%)	rounded	\$19,000,000
	<b>Total Field Costs</b>	rounded	<b>\$393,000,000</b>
	Investigation, Design, & Construction Mgmt (estimated at 15%)	rounded	\$59,000,000
	<b>Total Project First Cost (excluding land)</b>		<b>\$452,000,000</b>

CODE:D-8312		ESTIMATE WORKSHEET			SHEET__2__ OF __4__		
FEATURE		14-Feb-03	PROJECT				
Fine Gold Dam - 580' High Concrete Faced Rockfill Dam Elevation 1100 Appraisal Stage		USJRBSI					
		DIVISION					
		UNIT					
PAY						UNIT	
ITEM		DESCRIPTION	CODE	QUANTITY	UNIT	PRICE	AMOUNT
1	Main Dam						
10	Excavation - common (removal of alluvium, rock slope cleaning by dozer to sound rock, minimal ripping.		8313	175,000	CY	\$6.50	\$1,137,500
20	Zone 1A - Exc, haul, & place (CL, SM, GM in 6" lifts to 98% Proctor, 2 mile haul). Toe slab imperv. cap		8313	30,000	CY	\$9.00	\$270,000
30	Zone 1B - Exc, haul, & place (random in 18" lifts to 95% Proctor, 0.5 mi. haul). Shell for Zone 1A		8313	50,000	CY	\$6.00	\$300,000
40	Zone 2 - Exc, haul, & place processed SM, GM in 14 lifts to 98% Proctor, 0.5 mile haul.) Deck foundation.		8313	166,000	CY	\$15.00	\$2,490,000
50	Zone 3A - Exc, haul, & place (processed GP in 18" lifts to 95% Proctor, 0.5 mile haul.) Transition to shell.		8313	166,000	CY	\$14.50	\$2,407,000
60	Zone 3B - Exc, haul, & place (rockfill, 18" max in 3' lifts, blasting operation 0.5 mile away.) Upstream shell.		8313	#####	CY	\$7.75	\$58,512,500
70	Zone 3C - Exc, haul, & place (rockfill, 4' max in 4' lifts, blasting operation 0.5 mile away.) Downstream shell.		8313	#####	CY	\$7.50	\$58,875,000
80	Concrete deck (3,000 psi strength, 0.4% reinforcing)		8313	61,000	CY	\$250.00	\$15,250,000
90	Concrete toe slab (3,000 psi strength, 0.3% reinforcing)		8313	4,350	CY	\$230.00	\$1,000,500
100	Anchor bars for toe slab (4' deep grouted into granite)		8313	19,500	anchors	\$24.00	\$468,000
110	Parapet Wall (3,000 psi, 0.4% reinforcing)		8313	3,250	CY	\$400.00	\$1,300,000
120	Drilling for grout program (setup, drill, test) setups=9		8313	53,300	LF	\$29.00	\$1,545,700
130	Grouting (grout injection into competent granite.		8313	40,000	sacks	\$9.50	\$380,000
140	Dewatering		8313	1	LS		\$2,100,000
	Mobilization - 5%						\$7,302,000
		Main Dam subtotal					\$153,338,200
						rounded	\$153,300,000

CODE:D-8312		ESTIMATE WORKSHEET		SHEET 3 OF 4	
FEATURE  Fine Gold Dam - 580' High Concrete Faced Rockfill Dam Elevation 1100 Appraisal Stage		14-Feb-03		PROJECT USJRBSI	
				DIVISION	
				UNIT	
PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
2	Diversion and care of river				
	Upstream Cofferdam (Crest @ El. 655)	112,060	CY	\$21.00	\$2,353,260
	Excavation for Diversion Tunnel	22,600	CY	\$175.00	\$3,955,000
	Concrete Liner for Tunnel	8,900	CY	\$280.00	\$2,492,000
	Furnishing and Handling Cement	2,510	TONS	\$120.00	\$301,200
	Furnishing and Handling Reinforcement	1,335,000	LBS	\$0.65	\$867,750
	Temp Tunnel Supports (Rock Bolts)	2,000	BOLTS	\$300.00	\$40,000
	Drilling, Diversion Tunnel	24,000	LF	\$20.00	\$480,000
	Mobilization - 5%				\$524,000
	Diversion and care subtotal				\$11,013,210
				rounded	\$11,000,000
3	Spillway (left abutmt, in rock)				
	Excavation for Spillway	576,754	CY	\$10.00	\$5,767,540
	Concrete in spillway crest	2,090	CY	\$200.00	\$418,000
	Concrete in spillway training walls and Apron	1,090	CY	\$230.00	\$250,700
	Furnishing and Handling Cement	900	TONS	\$120.00	\$108,000
	Furnishing and Handling Reinforcement	477,000	LBS	\$0.65	\$310,050
	Mobilization - 5%				\$343,000
	Spillway subtotal				\$7,197,290
				rounded	\$7,200,000
4	Outlet Works				
	Concrete in Outlet Works Intake Structure	745	CY	\$420.00	\$312,900
	Excavation of Outlet Shaft and Gate Structure	3,270	CY	\$345.00	\$1,128,150
	Concrete in Outlet Works Shaft and Gate Structure	2,010	CY	\$485.00	\$974,850
	Furnishing and Handling Cement	570	TONS	\$120.00	\$68,400
	Furnishing and Handling Reinforcement	301,500	LBS	\$0.70	\$211,050
	Temporary Supports for Shaft				
	No. of Rock Bolts	150	Bolts	\$350.00	\$52,500
	Depth of Drilling	1,500	LF	\$20.00	\$30,000
	Outlet Works Trashracks	112,500	LBS	\$2.50	\$281,250
	Outlet Works Bulkhead & Seats for Intake Structure	115,600	LBS	\$4.00	\$462,400
	Outlet Gate for Gate Structure	544,600	LBS	\$4.00	\$2,178,400
	Mobilization - 5%				\$285,000
	Outlet Works subtotal				\$5,984,900
				rounded	\$6,000,000



CODE:D-8312		ESTIMATE WORKSHEET			SHEET __4__ OF __4__		
FEATURE		14-Feb-03	PROJECT				
Fine Gold Dam - 580' High Concrete Faced Rockfill Dam Elevation 1100 Appraisal Stage		USJRBSI					
		DIVISION					
		UNIT					
PAY						UNIT	
ITEM		DESCRIPTION	CODE	QUANTITY	UNIT	PRICE	AMOUNT
5	Powerplant / Pumping Plant						
	Steel Pipe			2,717,000	LBS	\$1.50	\$4,075,500
	Valves, all Sizes and Types			4,448,300	LBS	\$4.00	\$17,793,200
	Hydraulic Control System			25,000	LBS	\$10.00	\$250,000
	Pump Units			359,400	LBS	\$7.00	\$2,515,800
	Turbines			629,670	LBS	\$6.50	\$4,092,855
	Generator			780,000	LBS	\$8.00	\$6,240,000
	Governors, Motors, etc.			1-Unit	LS		\$1,200,000
	Excavation for Pump/Generator Structure			145,840	CY	\$15.00	\$2,187,600
	Concrete in Pump/Generator Structure			35,800	CY	\$350.00	\$12,530,000
	Furnishing and Handling Cement			10,100	TONS	\$100.00	\$1,010,000
	Furnishing and Handling Reinforcement			5,370,000	LBS	\$0.60	\$3,222,000
	Mobilization - 5%						\$2,756,000
		Pump / Power Plant subtotal					\$57,872,955
						rounded	\$57,900,000
6	Saddle Dam						
10	Excavation - common (removal of alluvium, rock		8313	82,200	CY	\$7.00	\$575,400
	slope cleaning by dozer to sound rock, minimal ripping.						
20	Zone 1 -Core- Exc, haul, & place (CL, SM, GM in 6" lifts		8313	380,000	CY	\$9.00	\$3,420,000
	to 98% Proctor, 2 mile haul).						
30	Zone 2 - Filter -Exc, haul, & place processed SM, GM in 18"		8313	260,000	CY	\$14.00	\$3,640,000
	lifts to 98% Proctor, 0.5 mile haul.)						
40	Zone 3 -Shell- Exc, haul, & place (processed GP in 18"		8313	1,500,000	CY	\$10.00	\$15,000,000
	lifts to 95% Proctor, 0.5 mile haul.)						
50	Riprap - Exc, haul, & place (processed GP in 18"		8313	34,300	CY	\$16.00	\$548,800
	lifts to 95% Proctor, 0.5 mile haul.)						
60	Slope Protection - Exc, haul, & place (rockfill, 18" max in		8313	10,300	CY	\$15.00	\$154,500
	3' lifts, blasting operation 0.5 mile aw ay.)						
	Mobilization - 5%						\$1,167,000
		Saddle Dam Subtotal					\$24,505,700
						rounded	\$ 24,500,000

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